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Expanded Metal CONSTRUCTION



*Uhlein Residence, Milwaukee, Wis.
Architect, Kirchoff & Rose, Milwaukee
Contr., Wm. Gregory, Milwaukee
KNO-BURN Lath from Tews Lime & Cement Co., Milwaukee*

SEPTEMBER
1919

Published Monthly by the
NORTH WESTERN EXPANDED METAL CO.
 37 West Van Buren Street, Chicago, Ill.

In the interest of better building and sent free of charge to those interested in the design and construction of good buildings

E. DRAGE BROWNE, Editor

September, 1919

Vol. 8, No. 5

Bulletin No. 82

Help Us—HELP YOURSELF

A One Word Business Rendering of Our National Motto—CO-OPERATION

TWO thoughts are today uppermost in the mind of every building material man, PRICES and DELIVERIES. And after each is a question mark.

Confronted by strange and untoward conditions, the world wide spirit of unrest has invaded the construction field. The labor supply is inadequate. Raw material prices are rising. Shorter hours and higher wages are curtailing production so that for certain commodities, the demand exceeds the supply.

These conditions are noticeably present in the steel industry—one of the most dependable barometers of the construction industry and indeed of the whole business world. Here the most optimistic can find not the slightest hope of any price reduction. On the contrary rumors of an early advance are gaining in strength and persistency.

The general complexity is further augmented by the railroad situation. Even under present conditions and with no crops moving, there is delay and congestion. And the future is not promising. For if the new wage demands of the railway men be granted, an increase in freight rates is assured, even if this be not necessary to make good the deficit incurred while the roads were under governmental control.

To offset this, if the men's appeal be refused, is the certainty of strikes which will further retard the handling of freight. Is there anything in these factors to warrant any hope of lower prices or prompter deliveries? No! and again NO.

But let us point out "Forewarned is Forearmed." The wise merchant will forestall the emergency. He will *anticipate*

his metal lath needs. His warehouse will carry a stock sufficient to enable him to make deliveries promptly and without waiting for mill shipments, giving him an undeniable advantage over his competitor.

Regardless of high prices, building is going ahead. The housing shortage is increasing. The tremendous construction machine, slowed down by the war, by strikes and the readjustment period, is already getting up steam. A phenomenal period of building activity is believed to be at hand.

Providentially in the "North Western" shops, labor troubles are rare. Fair dealing results in efficient, satisfied employes, yet even we have to acknowledge to a growing scarcity of men.

Today we can give you satisfactorily prompt service. Next month, perhaps, even a few weeks it may be—first come, first served.

To North Western Dealers therefore we issue a word of friendly council—PRE-PARE. For your own and for our sake—

—Purchase metal lath now for prompt deliveries.

—Purchase now for the price saving we honestly believe you will effect.

As aggressive business men we desire more business and more customers. But above all we desire to take care of those we already have. Point blank then we ask for your co-operation. Help us to give you the service you have a right to expect. Help yourselves to meet your customers' demand. Guard against the threatened shortage. Order liberally and order NOW.

Mark These Two Dates On Your Calendar
October 5th to 11th

METAL LATH WEEK

THE Associated Metal Lath Manufacturers, have an idea—a bully one. And we want the help of every single one of the 19,000 readers of EXPANDED METAL CONSTRUCTION to turn it

We are a rich and mighty powerful nation, but we cannot afford that this huge sacrifice of life and property can go on indefinitely.

And so the National Fire Protection



J. H. Schiltz Residence, Rochester, Minn.
Arch. & Cont., Geo. Maske, Rochester
KNO-FUR supplied by Botsford Lumber Co., Rochester, Minn.

into a huge business success.

Here's the plan, but first, these few necessary explanations:

- Last year nearly 15,000 men, women, and little children died horribly by fire.
 - Nearly \$300,000,000 worth of homes and other property was destroyed by fires—
- which were largely *PREDICTABLE*.

Association, backed by the country's *Big Men* and *Big Businesses* have inaugurated an annual Fire Protection Week—October 5th to 11th, to awaken the public to a realization of the ever-present Fire Peril.

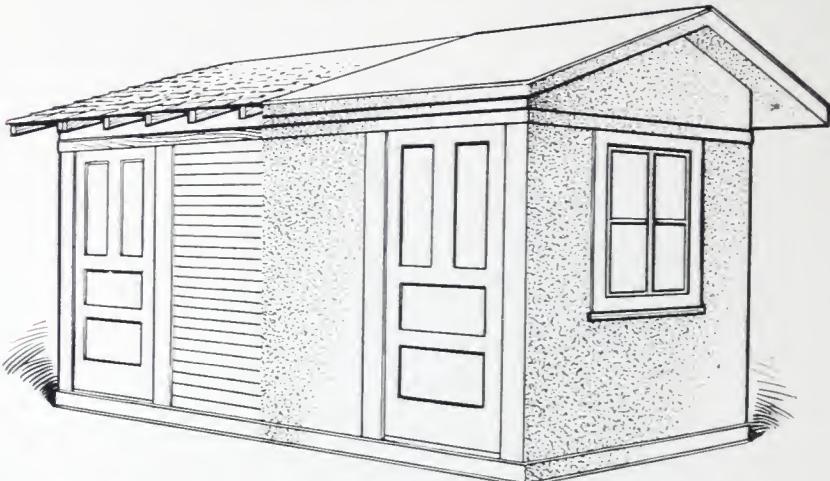
And since the universal use of fireproof construction is one of the primary essentials in lessening fire loss the Associated Manufacturers of Metal Lath believe that

Metal Lath Week—Continued

the National Fire Protection Week is the time of all times to push fire retarding METAL LATH.

Civic safety—*your* safety and *my* safety is constantly imperiled by the combustible dwellings—fire traps—in your vicinity, and to reduce this peril calls for the concerted action and co-operation of all who are concerned in either the designing or construction of buildings as well as those who supply the materials therefor. And it is safe to say that no greater community

The special "North Western" advertising, will appear in "Architectural Record," "Architectural Forum," "The American Architect," "American Builder," "Building Supply News," "Engineering & Contracting," "Keith's Improvement Bulletin," etc. But this is not all: We will supply gratis to any dealer desiring them circulars to be sent to prospective builders. We will also send free electros or proofs of our "ad" for use in local papers.



Sketch of the Test House described below (for Construction Details see page 5).

service could be rendered by public spirited architects, contractors, etc., than to enlist the active interest of building clients in FIRE RESISTING construction.

Every well informed builder and dealer is familiar with the high fire resisting properties of Metal Lath. Underwriter's Tests have indisputably proven that with its protective covering of plaster, Metal Lath will successfully withstand over an hour's exposure to merciless heat, whereas wood lath similarly protected kindles in 5 to 7 minutes.

So much for the introductory. Now for the "big idea."

To interest the public generally in Metal Lath Week the Associated Metal Lath Manufacturers will run special Metal Lath Week copy in all their advertising media, featuring it as an auxiliary movement to Fire Protection Week.

A test house (half constructed with Metal Lath and half with wood lath) has been designed to demonstrate the rapid combustibility of wood lath and shingles and at the same time to show the fire resistive value of identically the same wood frame construction using **METAL LATH** and fire resistive shingles. The plans for the construction of this miniature house are shown elsewhere in this issue and it is the hope of the Association that the broad gauged merchants of each community will get together, and themselves finance the building of such a house and in the presence of the Fire Department, Mayor, School Board, local Chamber of Commerce, Women's Clubs and other civic organizations set it on fire on Fire Prevention Day—October 9th. This spectacular test can be easily made the star advent of any special community program that has been arranged for this

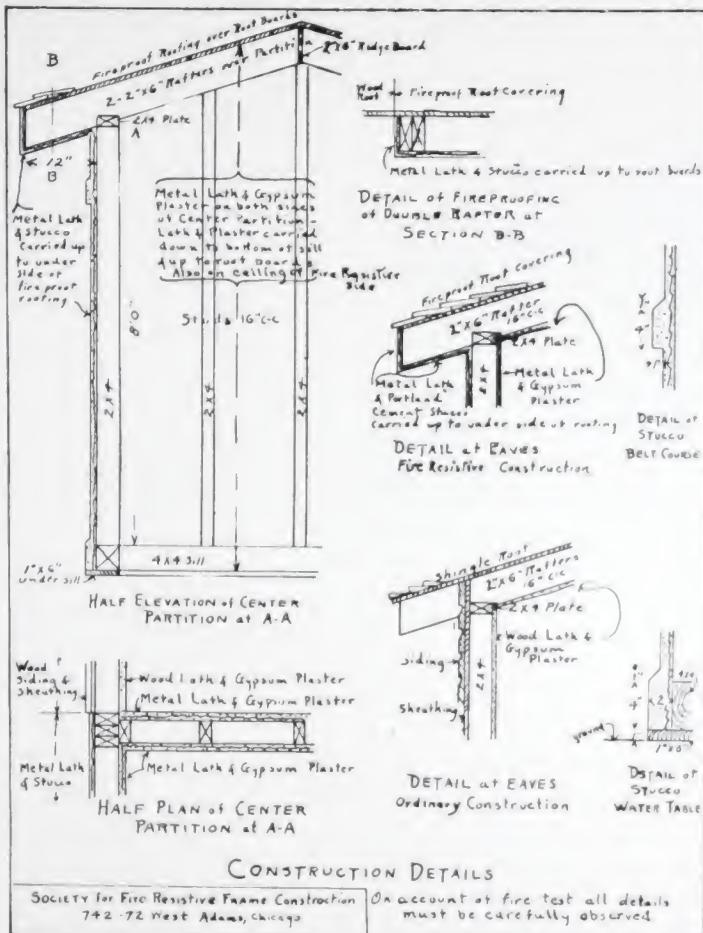
EXPANDED METAL CONSTRUCTION

Metal Lath Week—Concluded

day and those responsible for its erection will undoubtedly derive much valuable publicity from the "write ups" in the local newspapers. Indeed it is hard to see where else so much excellent advertising

maximum advertising benefit is to be derived from the demonstration it must be thoroughly advertised in advance.

Salesman, properly instructed, will be found a material aid in boosting Metal



could be secured for so small an expenditure.

The fire is to be started on the "kindling wood" half of the house which will, of course, be quickly consumed, while the length of time the *metal lath* part of the structure will resist the flames, is the strongest kind of selling argument for this material.

At least 15 or 30 days, should be allowed for the plaster to set. And if the

Lath Week and "stickers" which cost little can be effectively used on outgoing mail.

Don't forget that the more publicity that is given this Metal Lath Week, the more Metal Lath the dealer will sell. If, each one of our friends and customers will co-operate by talking Metal Lath and other fire resistant materials during this week, not only will metal lath sales greatly increase, but the peril of the Fire Scourge will be vastly lessened.

Keeping One's Business Ear to the Ground

"Grouches" Sensed Early and Promptly Adjusted May Turn to Real Business Boosts

AW, don't order from Blank & Company. They don't want to bother with us little fellows, yet I mind the time when old man Blank was mighty tickled to come around and get my business."



H. E. Swanson Residence, Rochester, Minn.
Arch. and Cont., Geo. Maske, Rochester
KNO-FUR supplied by Botsford Lumber Co., Rochester

So "John Smith," and more of his kind, took his little picayune order to a smaller concern. And the "old man" sitting lonesomely in the mahogany office frowningly wondered why business was falling off.

Woe to the concern that has grown too large to cultivate its small customers. For little businesses like small boys have a habit of growing. And the loyalty to the "House," conceived and nurtured by careful sales attention during those first struggling years, may prove veritable "bread upon the water" when off seasons or relentless competition take the "House" uncomfortably near business shoals.

The neglect of small customers and the slighting of small kicks has contributed to the downfall of full many a promising concern. And per contra a conscientious attention to these seemingly inconsequential factors has oftentimes been one of the early stepping stones to a double AA rating in the big commercial agency books.

"The Customer is always right," said Marshall Field and he said it so emphat-

ically and so often that the busy department heads and bored clerks began to half way believe it. John Smith's little plaint was promptly adjusted or its unreasonableness courteously pointed out to him. And meanwhile the business expanded incredibly and old M. F. waxed more than passing rich.

Keeping one's ear to the commercial terra firma is a mighty good business habit to acquire. And the method used by one successful firm to bring to light secret grouches is worthy a trial. Every month the ledger clerk is required to furnish a list of all customers who have not purchased within the last sixty days. A courteous personal letter of inquiry is then written to each back slider and a copy sent to the salesman.

Next time the latter makes his call, out comes his carbon copy and the matter is thoroughly discussed. Frequently the salesman is able to adjust the real or fancied grievance or when this exceeds his authority he can at least obtain from the customer an expression which will enable "the House" to set matters right or to conscientiously close out the account.

It is human nature to sidestep unpleasantness. But to ignore or even slight complaints in the hope that the customer will eventually forget is a dangerously short sighted policy.

One firm follows up its "kicks" by having the person opening the mail attach a red complaint sheet in duplicate to every letter wherein dissatisfaction is expressed. The letter with its attached "attention" sheet goes direct to the Sales Manager who indicates thereon the suggested action, and files one copy as a "follow up" on the guilty department. When the complaint sheet, properly notated as the course pursued, is returned, it is filed and the Sales Manager judges if further correspondence is necessary.

No single complaint system can be made to answer all the needs. But by careful study of the individual problem, it is always possible to devise some method for bringing to light the hidden "sore spots" and then to so expedite their investigation and fair adjustment, as to materially aid in turning the disgruntled customer into a loyal business friend.

Churches 1,000 Years A-Building and the Modern Kirk

Down Through the Ages Have the Master Works of Europe Furnished Inspiration to American Builders

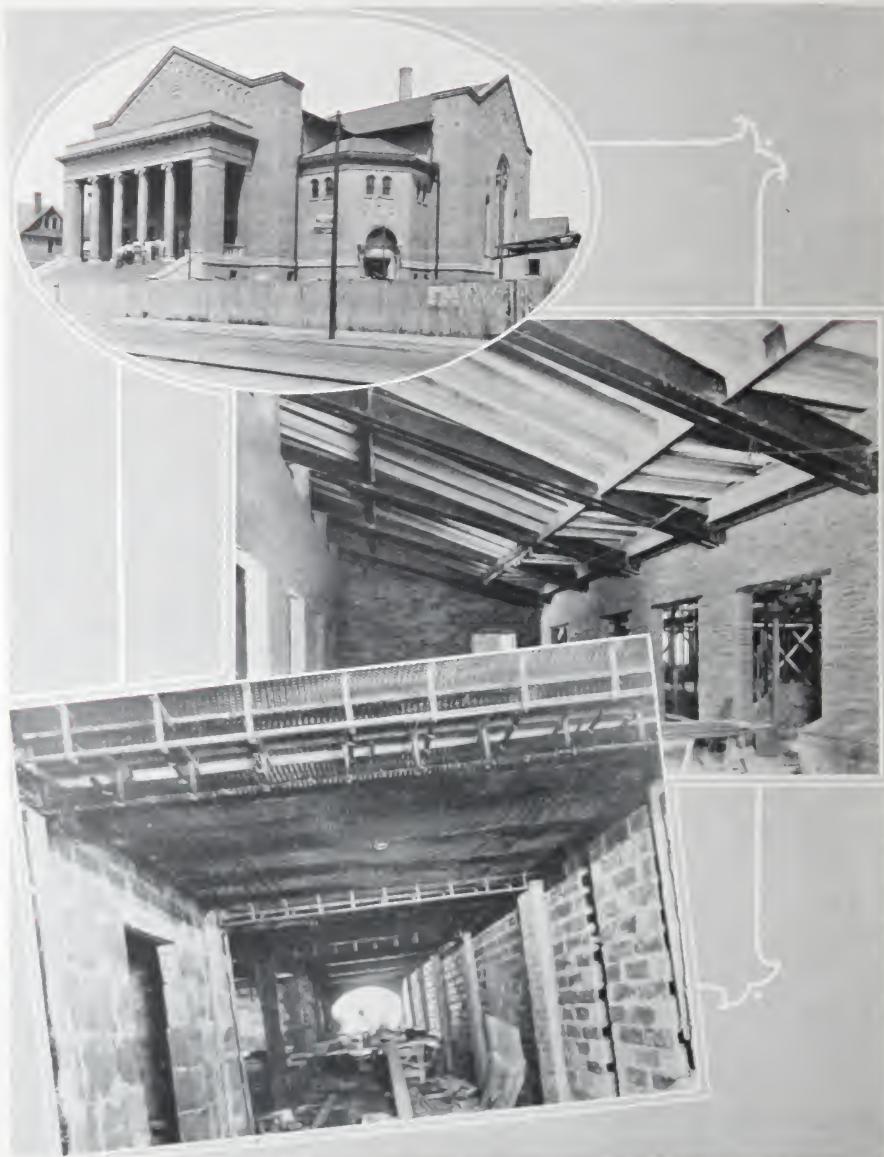
TIME counted for little in the annals of the past—at least in Church building. Centuries passed unconsidered—thus

Solomon's Temple on Mount Moriah, begun in 1013 B. C. was finished only when Nero ascended the throne. And there



Ravenswood Congregational Church at Hermitage & Montrose, Chicago
Architect, W. R. Gibbs, 160 W. Washington St. — Plastering Contractor, D. R. World
KNO-BURN Metal Lath supplied by Wisconsin Lime & Cement Co., Chicago

Churches 1000 Years A-Building—Continued



(a) Christian Science Church, Cleveland, Ohio — Architects, Briggs-Nelson, Cleveland
Plastering Contractor, Lennox-Haldeman Co., Cleveland
Lathing Contractor, Youngberg-Ltebig Co., Cleveland

KNO-BURN furnished by J. A. Irwin, Cleveland

(b) Basement ceiling furred down to take care of pipes and air ducts

(c) Lobby will have an arched ceiling here

Note particularly the ceiling

See page 9 for other pictures showing what the use of metal lath can do

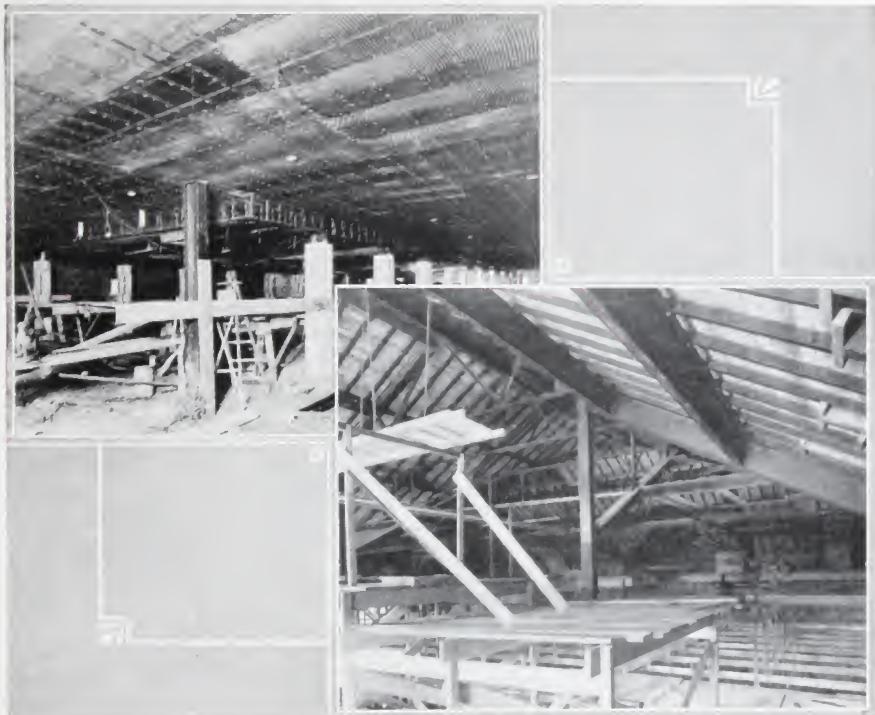
Churches 1000 Years A-Building—Continued

still exist a large number of structures whose construction consumed hundreds of years.

That on occasion, however, these dignified ancients did bestir themselves is shown by the fact that on the renowned

hardness and smoothness. Truly modern builders might do worse than to study the specifications of Vitruvius who insisted on an excellence of workmanship far above present day standards.

The pressure of twentieth century life



(c) Corridor ceiling showing false beams and core on walls to take care of cornice
 (d) View before lath or channels are placed to show what can be done with metal lath. This room when finished will be formed into arches and penetrations

Church of Ste. Sophia begun by Justinian in 522 A. D., a force of 10,000 workmen toiled night and day for six years.

A veritable jewel amongst religious structures is the Taj Mahal—surely the most wondrous architectural memorial ever dedicated to woman.

The famous cathedrals of England and those of Southern Italy and Sicily prove that of old they builded not only magnificently, but permanently. And in our study of the latter it is interesting to note that stucco appeared to be the preferred finish. And such stucco! as after centuries of time, to largely retain its pristine

demands far quicker construction, yet we find a surprising tendency to cling to the architectural tenets of the past.

While there is apparently no valid reason why church architecture should not be as diversified in style as any other public building it is nevertheless a fact that, with the single exception of the Scientist churches, almost all houses of worship, both ancient and modern are rectangular in plan.

This is perhaps due to the fact that a single model—the Christian Basilica—has been universally accepted as the most suitable and symbolical design for our

Churches 1000 Years A-Building—Continued

houses of worship. In its simplest form this takes the shape of an oblong rectangle with an apse—transepts, chapels, towers, and porches being added to suit the needs or wealth of the community.

Since changes are so few and far between there are certain basic principles that can be applied to most church construction, regardless of size or location. The type of material to be used in constructing a church—stone, brick, reinforced concrete, stucco, etc., will be determined by the locality and the size of the expenditure. Stucco on Metal Lath makes a highly attractive structure, moderate in first cost, permanent and fire resisting.

The permanence of solid brick, relieved from monotony by different modes of laying, the using of stone for string courses, jambs, etc., also recommends its use in church construction. Also the exterior wall surfaces may, on occasion, be broken by pilaster strips carrying arches over the windows, these having the additional advantage of stiffening the walls which may thus be built lighter than they otherwise would be.

Outside of the larger cities, basements—other than a small cellar for the furnace, etc., are seldom necessary in church building, consequently excavation is usually not required. In constructing the cellar however, it is highly desirable that the walls and ceilings of the furnace and boiler rooms should be made fire retardent by using *Metal Lath*.

The walls of the church should be well provided with damp proof courses on the footings and above ground level. Win-

dows will be built as large as safety will allow and these together with the doors will, in a brick or stone building, ordinarily take the form of an arch, either semi-circular or pointed.

The roof preferably of oak, hewn if possible, otherwise sawed, may be left open, exposing the framework to view or it may be a flat ceiling, but in either case it must be strongly trussed and braced longitudinally. Oak or chestnut roofs are better left unfinished, but pine or other soft wood is usually improved by staining.

Comparatively few communities can afford a vaulted edifice, but where it is desired to add special dignity to the structure the chancel alone may be vaulted, a timber roof being used over the vaulting to safeguard it from the weather.

Metal frames and sashes for window enclosures are essentially desirable and the glass should be set near the outer face of the wall in order to admit the maximum amount of light.

In regard to the structural details—bases, capitals, cornices, etc., the architect will be well repaid by a study of the medieval models—those structures of transcending grandeur created during the world's most lofty era of church building.

The capitals of the early French builders seldom were exactly alike, the craftsmen subtly, taking full advantage of the endless variation possible in proportions and details of form.

Ornamental carving, to relieve the baldness of mere structure has since the earliest times been used for capitals, archivolts, jambs of doorways, and the



1. James Keller Residence, Rochester, Minn.
2. Amiel Glabe Residence, Rochester, Minn.
3. A. G. Whiting Residence, Rochester, Minn.

These three residences were designed and erected by Geo. Maske, Architect and Contractor, Rochester

KNO-FUR for above supplied by Botsford Lumber Co., Rochester, Minn.

Churches 1000 Years A-Building—Concluded

*Muirdale Hospital, Wauwatosa, Wis.**Architect, Robert Messner & Co., Milwaukee, Wis.**Contractor, William Gregory, Milwaukee, Wis.**24 gauge KNO-BURN furnished by Tews Lime & Cement Co., Milwaukee, Wis.*

string courses, including cornices. And in the planning of such ornamentation, the workman must necessarily be imbued with a keen artistic sense, an appreciation of the vital beauty of organic nature and a knowledge of the limitation of the materials in which he is working and the general design of the structure of which the carving is to form an integral part of and harmonious whole.

Following the precepts laid down by the early French, Italian and English builders we perceive that aesthetic quality and structural function are one in architecture and that, while no hard or fast

rules can be laid down, in good design there can be no sundering of these essential qualities.

Since the interior walls of a church are frequently enriched by mural paintings or elaborately stenciled frescoes, it is exceedingly important that the pristine beauty and smoothness of the plaster be preserved intact. Practically all modern church builders are well informed as to the merits of metal lath for this purpose, the attractive edifice pictured on page 7 being but a single instance of the very many religious structures on which North Western dealers have had the pleasure of furnishing North Western Metal Lath.

Metal Lath Protection for Concrete Columns

THIE results of the recent Bureau of Standards' Tests brought forth some interesting conclusions:—namely, that vertically reinforced round columns without spiral, resisted fire better than square columns without spiral.

It was also demonstrated that the addition of 1 inch of cement plaster, held in place by metal lath or a light expanded metal such as ECONO was sufficient to prevent loss of the protective covering by spalling, and that columns so protected lost but little of their original strength in the four hour fire tests. There seems also

to be added merit in such protection in the fact that the thickness is uniform over the columns, whereas any accuracy in placing the steel would result in the protective concrete being thinner on one side than on the other.

The recommendation is therefore that all gravel concrete columns (but particularly rectangular and round columns with spiral reinforcement) be given the additional protection of approximately 1 inch of Portland cement plaster either on *Metal Lath* or reinforced by light Expanded Metal.

The Northwestern's "Literary Digest"

From the large number of magazines which monthly reach the editorial desk we have culled these excerpts for your "After Dinner" reading.

Is Your Office or Factory Building Properly Lighted?

THE need of providing proper lighting in factory and office buildings, etc., is gradually beginning to be appreciated. Greater attention is being paid to the proper orientation of windows and skylights, proper glazing and proportioning them in relation to the work expected of them.

In an able article, entitled "Daylight and Artificial Lighting of Buildings in the *Journal of the American Institute of Architects* and reproduced in "Engineering and Contracting," it is pointed out that many architects proportion window area to floor area without making allowance for the position of window with relation to the area to be lighted or the relation of the window to its primary light source—the sky.

Arrangements of lighting that will produce abnormal sensations are to be avoided. Efficient lighting combined with maximum eye comfort is almost wholly a matter of reflection. We are reminded that the amount of light received at any point or the area lighted by the window is governed solely by the amount of sky area that can be seen from this point or by the area of luminous surfaces, light colored walls, etc., that can be seen as its equivalent.

An ideal window should be equipped with devices which reflect the light entering the window and distribute it over the ceiling which are treated so as to re-reflect the light downward and diffuse it with as little loss as may be.

The light reflecting character of the interior coatings—the wall and ceiling finishes must also be duly considered. Efficient lighting, the avoiding of objectionable brightness contrast and eye strain, such as will be produced by a brilliant direct light surface is almost wholly a matter of reflecting surface.

No visible surface in a room, including the window surface should have a brightness of much more than 2-10 (0.2) candle power per square inch and preferably somewhat less. Furthermore the maximum brightness contrast must not exceed 100.1.

But the reflecting value and co-efficient of reflection of the ceiling and wall surface (principally the ceiling surface) regulates the amount of light that must be left loose, so to speak, from the room, to produce the surface brightness required.

It is pointed out that we are dependable on the ceiling for about 60% of our light, where it and the wall are light tinted. With due allowance for dirt, aging, etc., it may be said that the difference between well painted white and ordinary light buff ceilings amount to between 20 and 30% of the illumination and this with proper painting, etc., may be increased.

With properly designed, glazed and equipped windows and with the interior surfaces properly treated, it should be possible to provide artificial lighting whose quality, distribution and intensity are closely similar to the natural day lighting and which it can be made to replace without resulting in injurious eye strain.

Bonding Fresh Concrete to Old

IT is frequently necessary to pour fresh concrete on to old or to concrete which has partially set. In "Engineering and Contracting" is given a summary of the conclusion of the tests of the Engineering Research Laboratory of the Bureau of Public Roads, thus:

"The ability of fresh mortar to adhere to older material decreases rapidly as the old sets up. Where the older material has set for 24 hours before adding the fresh, the bonding strength is but 44% of that of monolithic concrete, at 7 days but 39% and at 28 days 35.5%. After the old concrete however has taken its final set, the decrease with the age is very slight.

The bond of new concrete to old can be made equal in strength to 60% of that of monolithic concrete by careful treatment. (If a greater bond is desired it will be necessary to resort to dowels drilled into the old concrete).

The methods used include: (1) cleaning off the surface of foreign substances, through which a bonding strength of 20% is developed; (2) treatment of the old surface, by roughing with a steel tool or

The North Western's "Literary Digest"—Concluded

by washing with dilute hydrochloric acid, or by combining both roughening and acid treatment. (This will increase the bond by 20% of the strength of the monolithic concrete.)



*Geo. P. Nelson Residence, Rochester, Minn.
Architect, Geo. Hoffman
Contractor, C. E. Kirkham
KNO-FUR supplied by Botsford Lumber Co., Rochester*

(3) Another 20% strength gain is obtained by a thin layer of neat cement butter spread over the surface of the old concrete. The fourth step is the tamping of the fresh concrete hard against the old concrete, forcing the cement into the pores and which adds 5% to the bonding strength.

The shearing strength of a joint is greatly increased by a treatment of the surface of old concrete. And the results show that there is no danger of leakage at a point made in concrete of a mixture as rich as 1: 2: 3.

Competent Inspection a Necessity

Under this caption "The American Contractor" says, "One of the great problems of the contractor is the inspector who represents the engineer or architect.

He can be a great help to the contractor or just the reverse. No matter with what care a structure be planned, nor how adequate the specifications, if these are not accurately carried out, the result will oftentimes fail to attain the desired standard of excellence.

Since however, the long hours and close

confinement with little to do, save keep his eyes "peeled" are not very attractive to high calibred men, it frequently happens that the superintendent for the contractor is better informed than the engineer's inspector and does not take kindly to being bossed by a less experienced or younger man.

Too often the inspector is not concisely instructed in his duties and not watched sufficiently close by his chiefs, consequently he frequently assumes an authority, not properly relegated to him such as giving the workmen orders, which invariably results in friction. The contractor has a perfect right to lodge objections, but oftentimes this but results in worse complications.

It cannot be gainsaid that a short sighted contractor may endeavor to enhance his profit by slighting his work and for the owners' protection as well as the architect and engineers', it is necessary to have an inspector on the job.

It is also true that much care is needed in choosing such a man. Even temper is an essential quality, and he must also possess the stamina to enforce his principal's instructions. He should be made also to realize the importance of making a careful study of the specifications furnished him and when these are insufficiently broad to cover all cases, be capable of making an independent decision.



*S. R. Case Residence, Rochester, Minn.
Arch. and Contr., Geo. Chandler, Rochester
KNO-FUR supplied by Botsford Lumber Co.
KNO-BURN Lath used for interior.*

Safety Devices Pay Dividends

"Home Made" Machine Guards Manufactured from ECONO Save Money for the Manufacturer and Boost the Dealer's ECONO Sales

HUMAN life has increased in value. Today an employer must pay dearly—in money and worry—for injuries sustained by those on his pay roll.

Not only is it necessary to safeguard transmission machinery, etc., but it is also essential that employes—the "cheerful idiots" of whom almost every establishment can boast one or two—be protected from the results of their own foolhardiness.

By continuous propaganda, the National Safety Council is striving to impress every manufacturer and superintendent with the importance of properly protecting exposed machinery with machine guards. And it remains for the local building material dealer to turn this into a real sales opportunity.

ECONO is an ideal material for the making of machine guards on the premises and at *minimum cost*. The open mesh permits a constant inspection of the machinery and freely admits light and air, while adequately guarding the exposed danger parts.

ECONO guards are indestructible—should a strand become broken—it can be easily and quickly repaired without removing the whole guard. And the small mesh makes it impossible for any one to tamper with the machinery.

The material is so easily worked, that the firm's own machinist can make the



Actual Size of Mesh, No. 20-½ "ECONO"

guards for the whole plant in his spare time, thus reducing their cost to a minimum.

The three sizes of ECONO usually used for this purpose are—Nos. 20½, 25¾, and 20-1½.

In manufacturing districts this is a "side line" that can be made to assume very profitable proportions. Dealers who desire to go after this business can obtain free, a supply of our attractive little ECONO booklet—"Machine Guards" to aid them in their promotion work.

Botsford Lumber Company a Good Firm to Know

Rochester, Minn. is "on the map" for more reasons than the world famous Mayo Bros. For one thing it can boast of some mighty progressive business concerns. And amongst these the Botsford Lumber Company takes an enviable front place.

The Botsford Lumber Co. doesn't sit

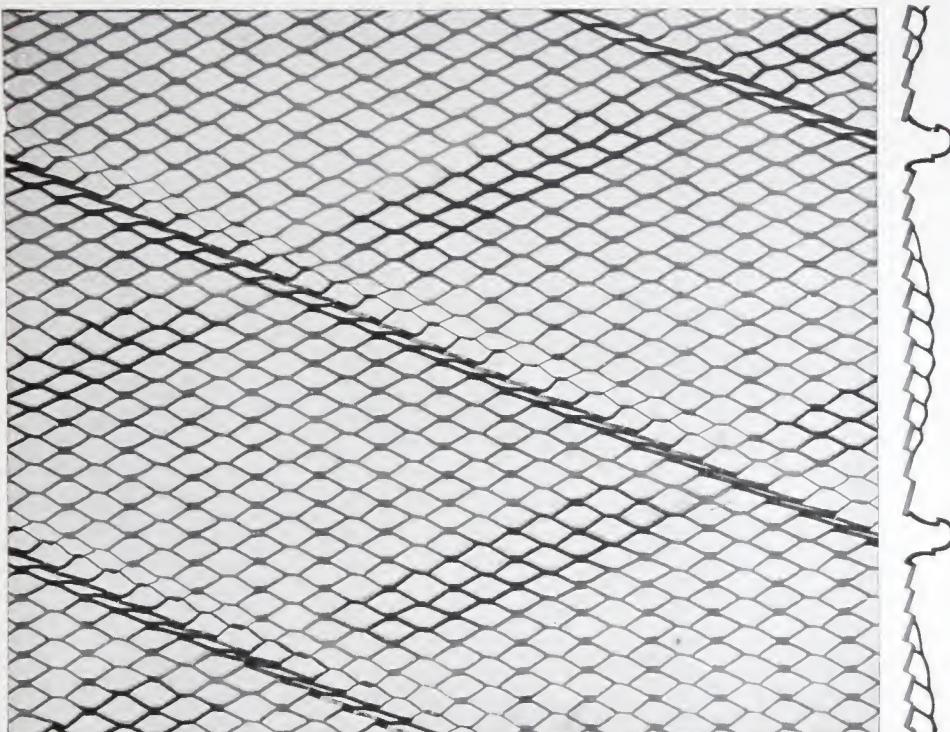
back and wait for business—they go out and *get it*—as proof thereof, just observe the pictures of some of their recent jobs for which they furnished the metal lath.

It is a real pleasure to co-operate with such "live wire" representatives and the "North Western's" heartiest good wishes are theirs for their increasing success.

A Big Southern Contractor Says— "Use Kno-Fur Regular"

ARCHITECTS and contractors whose work is on the seacoast or in warm damp climates of Georgia, Florida, Texas, etc., have troubles all of their own. The effect of the excessive humidity on

Its chief qualification for Southern or seacoast work however, is the fact that it is *cut from a copper bearing sheet*, and further protected by a *coat of special carbon paint*, giving it a markedly high



construction materials has to be reckoned with. Frequently too building sand will be found to contain a percentage of salt.

In stuccoing—the most acceptable type of building for semi-tropical and tropical climes—it is important that these factors are taken into account and that a supporting base for the plaster be chosen that can successfully resist these detrimental influences.

In *KNO-FUR* Regular will be found a type of material which is splendidly adapted to meet this special need.

KNO-FUR Regular is a *self-furring* lath, the *KNO-BURN* mesh being stiffened by $\frac{1}{2}$ -inch deep ribs, placed diagonally across the sheet. It is a highly satisfactory and economical type of lath to use—quickly erected and easily worked over.

resistance to dampness, acids, etc.

At the recent meeting of the American Society for Testing Materials, the protective effect exerted by the presence of copper in steel was made public.

Actual atmospheric exposures were used for the purpose of the tests. The conclusion was that a mere trace of copper—as little as from 0.01% to 0.03% reduces the rate of corrosion, that with a normal sulphur content of about 0.05%, a copper content of 0.12% gave virtually as complete protection as large amounts.

Since *KNO-FUR* Regular sheet not only contains the necessary copper content but is further protected by the carbon paint, its use is indicated wherever dampness or special atmospheric conditions prevail as at the seacoast.

EXPANDED METAL CONSTRUCTION



The Satisfaction
of Building
**FIRE
RESISTING
HOUSES**

EVERYONE is Afraid of Fire. It is Really so Easy to Convince the Client that the Fire Protection KNO-BURN Affords Far Outweighs the Slight Extra Cost.

YOU know how greatly the fire risk in dwellings can be lessened by using

Kno-Burn
CORRUGATED
METAL LATH

as a base for stuccoing, for interior plastering and to protect the walls and ceiling of the furnace room or basement.

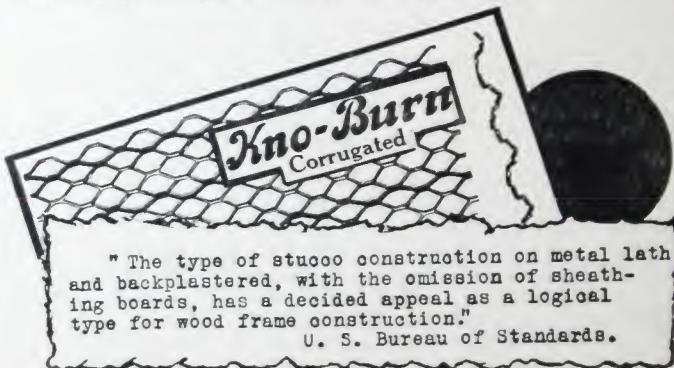
You are aware also that the very best plastering can be done over this material.

Your client respects your judgment. Tell him *why* it is so desirable to use KNO-BURN Metal Lath.

**Two
Reminders**

1. Have you placed a trial order for NEMCO SHEATHING LATH?

2. Include Accessories With Your Next Order



"The type of stucco construction on metal lath and backplastered, with the omission of sheathing boards, has a decided appeal as a logical type for wood frame construction."
U. S. Bureau of Standards.

Northwestern Expanded Metal Co.

407 South Dearborn Street
CHICAGO

Nemco Products.